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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/775,695	02/10/2004	Takanori Yamagishi	328-028	9178

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MILFORD, CT 06460

EXAMINER

ZALUKAEVA, TATYANA

ART UNIT	PAPER NUMBER
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1713

DATE MAILED: 09/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/775,695	Applicant(s) YAMAGISHI ET AL.	
	Examiner Tatyana Zalukaeva	Art Unit 1713	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) 3-9 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-9 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1, 2, drawn to a resist polymer, classified in class 525, subclass various.
 - II. Claims 3-9, drawn to a method of producing resist polymer, classified in class 526, subclass 79.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product as claimed can be obtained by a materially different process, for example, by an ionic polymerization in the presence of a metallocene catalys in emulsion or suspension or melt.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
4. Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.

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5. During a telephone conversation with Mr. Stolz, esq., on 08/19/2004 a provisional election was made with traverse to prosecute the invention of Group I, claims 1 and 2. Affirmation of this election must be made by applicant in replying to this Office action. Claims 3-9 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

6. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

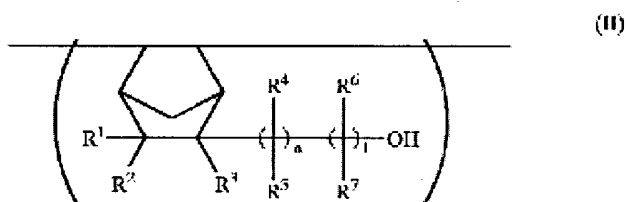
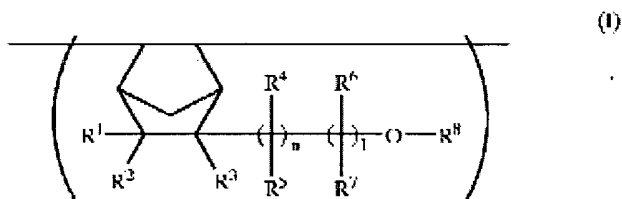
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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8. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Toishi et al (US 20030175620).

Toishi discloses resist polymer comprising monomeric units of formula (I) and formula (II) presented in the abstract, polymer being insoluble or poorly soluble itself in an alkali aqueous solution but becoming soluble in an alkali aqueous solution by the action of an acid (abstract).



The molecular weight of the polymer and molecular weight distribution measured by gel permeation chromatography, as discussed in [0150]. The molecular weight is shown Mw=13,000, which inherently fulfils the limitations of the instant claim 1 in terms of Mw.

9. Claim 1 is rejected under 35 U.S.C. 102(a) or 102 (e) as being anticipated by Nozaki et al (US 2002/0058197).

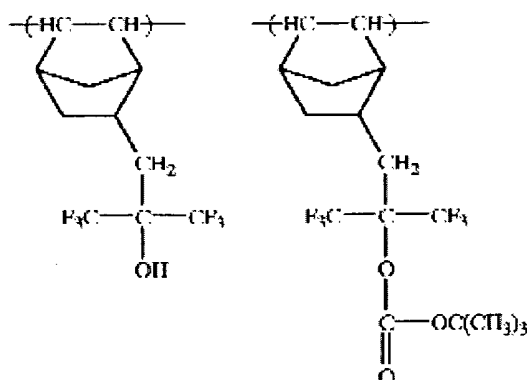
Nozaki discloses film-forming resist polymer, which has an alkali-soluble group and is soluble in an aqueous basic solution [0018]. The polymer having an acetal-protected vinyl ether structure may be a compound containing the acetal-protected vinyl ether

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structure in its molecule. In such a case, the negative resist composition of the present invention preferably comprises a combination of the compound containing an acetal-protected vinyl ether structure and a photo acid generator capable of generating an acid which can react with the alkali-soluble group after the acetal-protected vinyl ether structure produces the deacetalization reaction when decomposed as a result of absorption of imaging radiation, and the negative resist composition itself is soluble in an aqueous basic solution and the exposed portion becomes insoluble in an alkali after exposure[0021]. The polymer is preferably an acrylate polymer and its molecular weight is most preferably within the range of 3,000-50,000, thus it's preferably a low molecular weight polymer, as called in the instant claims. [0060]. The polymers of interest are depicted by the general formulas [0070], on pages 6 and 7, by [0078] on page 8. Of special interest the polymers obtained in Examples 1,2,3, (pages 14, 15) that provide for the monomer units readable on the instant claims, and have molecular weights Mw respectively 11,400, 10,800 and 9,800, wherein the polydispersity values given for each of the polymers fulfill the requirement of the instant claim 1 that high polymers practically do not present,

10. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Nishimura et al (U.S. 2002/0009668).

Nishimura discloses radiation sensitive polymer, wherein the best polymer is depicted by Example 6



Molecular weight average of the polymer determined by gel permeation chromatography is 6,000, thus inherently and necessarily the limitation of molecular weight of the instant claim 1 is met by Nishimura.

The acid generator causes an acid-labile group in the resin (A) to dissociate by the action of an acid generated upon exposure. As a result, an exposed part of the resist becomes readily soluble in an alkaline developer, thereby forming a positive-tone resist pattern [0466].

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

13. Claim 2 is rejected under 35 U.S.C. 102(a, b, e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over any one of the following, each one individually: Toishi, Nozaki or Nishimura.

Claim 2 is a product-by-process claim. Because of the nature of product-by process claims, the Examiner cannot ordinarily focus on the precise difference between the claimed product and the disclosed product. It is then Applicants' burden to prove that an unobvious difference exists. See In re Marosi, 218 USPQ 289, 292-293 (CAFC 1983). See also footnote 11 O.G. Notice 1162 59-61, wherein a 35 USC 102/103 rejection is authorized in the case of product-by-process claims because the exact identity of the claimed product or the prior art product cannot be determined by the Examiner. Furthermore there is no evidence, or no reason to believe that the process of polymerization as instantly claimed produces a different product, that of a polymerization of the applied references, since all the limitations of the products are either expressly or inherently present in the prior art, consult In re Thorpe, 227 USPQ 964 (CAFC 1985), wherein the product-by-process claims are rejected over a product, which although prepared in a different manner, appeared to be the same (prima facie) as the claimed product.

See also **In re Brown**, 173 USPQ 685 (CCPA 1972), the Court of Customs and Patent Appeals (CCPA) explicitly approved the 102/103 rejection of a product-by-process claim over a reference which showed a product which appeared to be identical or only slightly different from the claimed product.

In the instant case no Graham vs. John Deere analysis was made but rather the test set out in MPEP 706.03(e) and In re Marosi was applied while explaining why the claimed product does not patentably distinguish over the prior art under 35 USC 102/103.

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Harada et al (US 2003/0215739) discloses photoresist polymer having repeating units similar to those instantly claimed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tatyana Zalukaeva whose telephone number is (571) 272-1115. The examiner can normally be reached on 9:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tatyana Zalukaeva
Primary Examiner
Art Unit 1713

August 24, 2004

A handwritten signature in black ink, appearing to read 'T. Zalukaeva', with a long, sweeping horizontal stroke extending to the right.